Project 8: Public Transportation Analysis

Objective:

The project's primary objective is to analyze public transportation data to assess service efficiency, on-time performance, and passenger feedback. By doing so, we aim to provide insights that support transportation improvement initiatives and enhance the overall public transportation experience.

Components:

Analysis Objectives:

Define specific objectives for analyzing public transportation data, including assessing on-time performance, passenger satisfaction, and service efficiency.

Data Collection:

Identify the sources and methods for collecting transportation data, which will include schedules, real-time updates, and passenger feedback.

Visualization Strategy:

Plan how to visualize the insights using IBM Cognos to create informative dashboards and reports.

Code Integration:

Decide which aspects of the analysis can be enhanced using code, such as data cleaning, transformation, and statistical analysis.

Design Thinking:

1) **Analysis Objectives:**

   Conduct stakeholder interviews to gather their perspectives on the most critical aspects of public transportation to be assessed. Define clear and measurable objectives, such as improving on-time performance by a certain percentage or increasing passenger satisfaction ratings.

2) **Data Collection:**

Identify data sources, which may include transportation schedules, GPS data for real-time tracking, and passenger surveys. Implement data collection methods, such as automated data retrieval from transportation databases and surveys distributed to passengers. Ensure data privacy and compliance with relevant regulations during data collection.

3) **Visualization Strategy:**

Collaborate with data visualization experts to design effective and user-friendly dashboards and reports in IBM Cognos. Prioritize visualizations that provide actionable insights, such as heatmaps of on-time performance or trend graphs of passenger feedback over time. Test and refine the visualizations with feedback from stakeholders to ensure they meet their needs.

4) **Code Integration:**

Evaluate the data analysis tasks that can benefit from code integration, such as data cleaning, transformation, and statistical modeling. Use programming languages like Python or R to create scripts for these tasks, ensuring reproducibility and efficiency. Document the code and its functionality for future reference and collaboration.

Conclusion:

This document outlines the problem definition and the design thinking process for our public transportation data analysis project. By following these steps, we aim to provide valuable insights that can contribute to improving public transportation services and enhancing the passenger experience.